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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,131	10/30/2001	Naoto Matsunami	16869P-036100US	8042

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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

NGUYEN, MIKE

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 08/02/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

OK

Office Action Summary

Application No.

10/004,131

Applicant(s)

MATSUNAMI ET AL.

Examiner

Mike Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-16 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>05/12/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Notices & Remarks

1. Applicant's Amendment 05/12/2004 in response to Examiner's Office Action has been reviewed. The following rejections now apply.
2. Claims 6-16 are pending for the examination.

Claim Objections

3. Claim 9 is objected to because of the following informalities: misspelling "f" in claim 9 line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert et al. (U.S. Pat. No. 6,742,034 B1) in view of Schubert et al. (U.S. Pat. No. 6,460,113 B1).

As to claim 6, Schubert (U.S. Pat. No. 6,742,034 B1) teaches a storage system (see fig. 1) comprising:

a single pool of disk drive units (see fig. 1 element 13);

a plurality of controllers coupled to at least one computer via a network (see fig. 1 element 15, 14 col. 3 lines 54-62); and

wherein each of said plurality of controllers comprises:

a first circuit in data communication with at least one computer (see fig. 2 element

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47 col. 5 lines 9-11);

a second circuit in data communication with said disk drive units (see fig. 2 element 71 col. 5 lines 15-16); and

a data buffer for storing data that is transferred between said first circuit and said second circuit (see fig. 2 element 70 col. 5 lines 9-20).

Although Schubert (U.S. Pat. No. 6,742,034 B1) discloses substantial features (discussed above), he fails to explicitly teach a connection unit connected between said single pool of disk drive units and said plurality of controllers, said connection unit configured such that any of said controllers can communicate with any of disk drive units. Schubert (U.S. Pat. No. 6,460,113 B1); however, teaches the connection unit connected between said single pool of disk drive units and said plurality of controllers, said connection unit configured such that any of said controllers can communicate with any of disk drive units (see fig. 2 element 48 col. 3 line 67 to col. 4 line 2 and col. 4 lines 28-30). It would have been obvious to a person of ordinary skill in the art to have the connection unit in order to provide controllers 38, 40 using switch (the connection unit to communicate with any of storage devices in storage pool.

As to claims 7 and 14, Schubert (U.S. Pat. No. 6,742,034 B1) teaches one of said plurality of controllers is a disk controller comprising a first controller accepting access from a computer through a block I/O interface, and another one of said plurality of controller is a file server comprising a first controller accepting from a computer through a file I/O interface (see col. 3 line 59 to col. 4 line 30).

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As to claim 8, Schubert (U.S. Pat. No. 6,742,034 B1) teaches a storage system according to claim 7 wherein a second controller of each of said plurality of controllers is a fibre channel controller (see col. 5 lines 9-11).

As to claim 9, Schubert (U.S. Pat. No. 6,742,034 B1) teaches a storage system according to claim 6 wherein each of said plurality of controllers determines which of said plurality of disk drive unit is accessible (see col. 7 lines 4-55).

As to claim 10, Schubert (U.S. Pat. No. 6,742,034 B1) teaches a storage system according to claim 9 wherein each of said plurality of disk drive units holds identification information identifying at least one of said plurality controllers, and each of said plurality of controllers determines which of said plurality of disk drive units is accessible based on the identification information held in each of said plurality of disk drive units (see col. 7 lines 4-55).

As to claim 11, Schubert (U.S. Pat. No. 6,742,034 B1) teaches a storage system according to claim 10 wherein each of said plurality of disk drive units hold said identification information in a specific storage area in the disk drive unit (see col. 7 lines 4-20).

As to claim 12, Schubert (U.S. Pat. No. 6,742,034 B1) teaches a storage system according to claim 11 wherein each of said plurality of controllers searches identification information in a specific storage area in each of said plurality of disk drive units, and determines

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which of said plurality of disk drive units is accessible based on the detected identification information (see col. 7 lines 13-20).

As to claim 13, Schubert (U.S. Pat. No. 6,742,034 B1) teaches a storage system according to claim 12 further comprising a disk pool management unit coupled to said plurality of disk drive units and a management console, wherein said disk pool management unit stores identification information identifying at least one of said plurality of controllers into a specific storage area in each of said plurality of disk drive units based on an input from said management console (see fig. 2 elements 20, 65 col. 5 line 63 to col. 6 line 45).

As to claim 15, Schubert (U.S. Pat. No. 6,742,034 B1) teaches a storage system according to claim 12 wherein each of said plurality of controllers performs the determination during system initialization (see col. 6 lines 58-65).

Claim 16 is directed to a storage system implementing the storage system as set forth in claims 1, 7 and 9. Since Schubert (U.S. Pat. No. 6,742,034 B1) and Schubert (U.S. Pat. No. 6,460,113 B1) teach the storage system as set forth in claims 1, 7 and 9; therefore, they also teach the storage system as set forth in claim 16.

Response to Amendment

6. Applicant's arguments with respect to claims 6-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Nguyen whose telephone number is 703 305-5040. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703 308-3301. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Nguyen
Patent Examiner
Group Art Unit 2182

07/20/2004


JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100